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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/729,304	12/04/2000	Dennis Patrick McNamara	1886 P 005	7607

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EXAMINER

HENN, TIMOTHY J

ART UNIT	PAPER NUMBER
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2612

DATE MAILED: 05/24/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/729,304

Applicant(s)

MCNAMARA, DENNIS PATRICK

Examiner

Timothy J Henn

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 December 2000.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) 17-21 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☒ Claim(s) 1-21 are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 04 December 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 2.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
 - I. Claims 1-16, drawn to a night vision camera, classified in class 348, subclass 229.1.
 - II. Claims 17-21, drawn to a mounting system for mounting a camera and display in a vehicle, classified in class 348, subclass 148.
2. Inventions I and II are related as subcombinations disclosed as usable together in a single combination. The subcombinations are distinct from each other if they are shown to be separately usable. In the instant case, invention I has separate utility such as a night vision camera which is not mounted using the specifics of invention II. See MPEP § 806.05(d).
3. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.
4. During a telephone conversation with Thomas K. Stine on May 13, 2004 a provisional election was made without traverse to prosecute the invention of group I, claims 1-16. Affirmation of this election must be made by applicant in replying to this Office action. Claims 17-21 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Specification

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5. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. **It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.**

6. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed. The office notes that the title should make some mention of the exposure functionality of the system to which the claims are directed.

Claim Rejections - 35 USC § 112

7. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

8. Claims 1-16 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. Claims 1-16 recite the limitation of an "electronic iris size of the CCD image

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sensor array". It is unclear what is meant by this limitation and how a CCD image sensor array includes the functionality of an "electronic iris" and how a camera can regulate the aperture size of its optical system by varying the timing signals inputted into a CCD image sensor array. For the purposes of art rejection this limitation will be read as "an iris size".

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 1-16 rejected under 35 U.S.C. 103(a) as being unpatentable over Secor (US 5,289,321) in view of Takahashi et al. (US 5,831,676).

[claim 1]

11. In regard to claim 1, note that the Secor claims a vehicle camera which is capable of imaging in low-light conditions (i.e. a night vision camera) which comprises an optical lens for receiving an image (Column 5, Lines 7-11); a low light CCD image sensor array which converts the received image into an electronic signal (Column 5, Lines 4-7) and a display which converts the electronic signal into an image on the display (Column 4, Lines 28-48). It is also noted that Secor discloses the use of an automatic exposure control to automatically adjust the camera for different viewing

conditions (Column 5, Lines 46-53), but does not disclose the specifics of how the exposure is controlled.

12. Takahashi et al. discloses an automatic exposure control comprising a signal processor which receives the electronic signal and is capable of automatically controlling a gain of the electronic signal (Figure 3, Items 5 and 25; Column 7, Lines 19-41); a timing controller which is capable of automatically controlling an iris size (Figure 3, Items 2, 14 and 25; Column 6, Lines 30-47) and at least one luminance threshold detector which determines the luminance of the electronic signal (Figure 3, Items 9-11 and 25; Column 7, Line 50 - Column 8, Line 15) and generates a luminance threshold detector output signal for enabling or disabling the automatic gain control of the electronic signal and the automatic iris size (Figure 10; Column 9, Line 19 - Column 10, Line 13). Takahashi et al. discloses the use of the disclosed system to maintain "optimum exposure control, regardless of the situation or condition of phototaking" (Column 2, Lines 15-20). Therefore, It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the automatic exposure control of Takahashi et al. with the camera of Secor to allow optimum exposure of the camera regardless of the phototaking conditions.

[claim 2]

13. In regard to claim 2, note that Takahashi discloses a system which detects the luminance across the entire imaging array of a CCD, including the upper portion, to determine a photometry value (Column 7, Line 50 - Column 8, Line 15).

[claim 3]

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14. In regard to claim 3, note that Takahashi discloses a system which detects the luminance across the entire imaging array of a CCD, including the top ten scan lines, to determine a photometry value (Column 7, Line 50 - Column 8, Line 15).

[claim 4]

15. In regard to claim 4, note that Takahashi discloses a system which detects the luminance across the entire imaging array of a CCD, including the center portion, to determine a photometry value (Column 7, Line 50 - Column 8, Line 15) which is then used to control the automatic gain and iris values (Column 6, Lines 30-47; Column 7, Lines 20-41).

[claim 5]

16. In regard to claim 5, note that Takahashi discloses a system which is capable of automatic control of the gain and iris as well as setting the gain and iris at fixed values depending on a luminance threshold level. However, Takahashi does not disclose an analog switch which changes between automatic control and the set value. However, it is well known in the art that analog switches can be used in place of microcontrollers to change the input signals to systems such as the AGC of Takahashi et al. (Official Notice). Therefore, It would have been obvious to one of ordinary skill in the art at the time the invention was made to use an analog switch instead of the microcontroller of Takahashi et al. to switch between automatic control and a set value for the input of the AGC circuit when the threshold is crossed.

[claim 6]

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17. In regard to claim 6, note that Secor in view of Takahashi et al. lacks a gain control signal which is manually variable by the driver of the vehicle. However, it is well known in the art to provide manually control of exposure values to the user in order to allow the user to vary the response of the camera to the user's liking (Official Notice). Therefore, It would have been obvious to one of ordinary skill in the art at the time the invention was made to allow the user of the camera of Secor in view of Takahashi et al. to vary the exposure values of the camera, such as the amount of gain, to vary the camera's response to the user's liking.

[claim 7]

18. In regard to claim 7, note that Takahashi discloses a system which is capable of automatic control of the gain and iris as well as setting the gain and iris at fixed values depending on a luminance threshold level. However, Takahashi does not disclose an analog switch which changes between automatic control and the set value. However, it is well known in the art that analog switches can be used in place of microcontrollers to change the input signals to systems such as the iris of Takahashi et al. (Official Notice). Therefore, It would have been obvious to one of ordinary skill in the art at the time the invention was made to use an analog switch instead of the microcontroller of Takahashi et al. to switch between automatic control and a set value for the input of the iris control circuit when the threshold is crossed.

[claim 8]

19. In regard to claim 8, note that Secor in view of Takahashi et al. lacks a gain control signal which is manually variable by the driver of the vehicle. However, it is well

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known in the art to provide manually control of exposure values to the user in order to allow the user to vary the response of the camera to the user's liking (Official Notice). Therefore, It would have been obvious to one of ordinary skill in the art at the time the invention was made to allow the user of the camera of Secor in view of Takahashi et al. to vary the exposure values of the camera, such as the opening of the iris, to vary the camera's response to the user's liking.

[claim 13]

20. In regard to claim 13, note that the Secor claims a vehicle camera which is capable of imaging in low-light conditions (i.e. a night vision camera) which comprises means for projecting an image through a lens onto a low light CCD image sensor array (Column 5, Lines 7-11); and means for converting the image into an electronic signal with a low light CCD image sensor array (Column 5, Lines 4-7). It is also noted that Secor discloses the use of an automatic exposure control to automatically adjust the camera for different viewing conditions (Column 5, Lines 46-53), but does not disclose the specifics of how the exposure is controlled.

21. Takahashi et al. discloses an automatic exposure system which comprises means for detecting the luminance of an image (Column 7, Line 50 - Column 8, Line 15), means for automatically controlling the gain of the electronic signal when the luminance of the image is beyond a threshold level (Figure 10; Column 9, Line 19 - Column 10, Line 13), means for setting the gain to maximum when the luminance of the image is below the threshold (Figure 10; Column 9, Line 19 - Column 10, Line 13),

means for automatically controlling an iris when the luminance of the image is beyond the threshold (Figure 10; Column 9, Line 19 - Column 10, Line 13) and means for setting the iris to a maximum when the luminance of the image is below the threshold (Figure 10; Column 9, Line 19 - Column 10, Line 13). Takahashi et al. discloses the use of the disclosed system to maintain "optimum exposure control, regardless of the situation or condition of phototaking" (Column 2, Lines 15-20). Therefore, It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the automatic exposure control of Takahashi et al. with the camera of Secor to allow optimum exposure of the camera regardless of the phototaking conditions.

[claims 14-16]

22. In regard to claims 14-16, see claims 2-4 respectively.

[claim 9-12]

23. Claims 9-12 are method claims corresponding to apparatus claims 13-16. Therefore, claims 9-12 are analyzed and rejected as previously discussed in regard to claims 13-16 respectively.

Conclusion

24. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The following further shows the current state of the art in vehicle night vision systems:

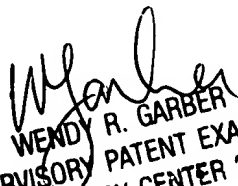
- | | | |
|-----|----------------|--------------|
| i. | Klapper et al. | US 5,729,016 |
| ii. | Berenz et al. | US 6,420,704 |

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Timothy J Henn whose telephone number is (703) 305-8327. The examiner can normally be reached on M-F 7:30 AM - 5:00 PM, alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wendy R Garber can be reached on (703) 305-4929. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

TJH
5/14/2004


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